

**Tetra Tech, Inc.**

4213 State Street, Suite 100
 Santa Barbara, CA 93110-2847
 VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**

Location: 50 feet north of Bear Creek Canyon track, between 6-MW-1 and 6-MW-2.

Date Started: 3/4/02 Completed: 3/12/02

Logged By: Joss Moore Checked By: R.J. Elliot, R.G. *A. F. Allen #6618*

Drilled By: Roy Buckenberger, Boart Longyear

Drilling Equipment: Boart Longyear Sonic Drill

Sampling Equipment: 10' Stainless Steel Bailer

GS Elev.: 171.7 ft above MSL TD: 185 ft bgs

4" Sch. 80 PVC Bank Casing: from 0 ft bgs to 45 ft bgs

4" Stainless Steel Screen: from 45 ft bgs to 55 ft bgs

Bentonite/Cement Grout: from 67 ft bgs to 185 ft bgs

Bentonite Transitional Seal: from 3 ft bgs to 37 ft bgs

Sand Filter Pack: from 37 ft bgs to 67 ft bgs

TOC Elev.: 174.69 ft above MSL

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Smp	REMARKS
5	silty sand, very dark brown (10YR 2/2), medium to fine grained, rounded, moderately graded, dry, some silt, trace roots, Alluvium.		SM			NA	100	0/0	3/4/02 1045 Begin drilling
10	sand with silt, dark yellowish brown (10YR 4/4), fine grained, rounded, moderately graded, dry, few silt, Orcutt Sand. moist, little gravel, (angular, < 1 cm in diameter, shale and diatomaceous chert).		SP-SM ▽				100	0/0	
15	wet.		▽				50	0/1.2	3/4/02 1125 Water level at 15 ft. bgs
20									

15 ft bgs ▽ Groundwater depth during drilling.

7.41 ft bgs ▽ Groundwater depth after well development.

TC Number: K942-21

TETRA TECH, INC.

Page 1 of 8

Q:\ACAD\BorLogs\MWells\TO_42\5-MW-22.ai p1 of 8 10/15/02 jm

**Tetra Tech, Inc.**

4213 State Street, Suite 100

Santa Barbara, CA 93110-2847

VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**

Location: 50 feet north of Bear Creek Canyon track, between 6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Sup	REMARKS
20	silty sand, dark brown (10YR 3/3), fine grained, rounded, poorly graded, wet, little silt, trace clay, trace angular gravel (< 3 cm. in diameter, shale and diatomous chert), Orcutt Sand.		SM				50		
25	few angular gravel.						50	0/0	
30							50		1715 Water level at 29 ft. bgs
35	trace angular gravel.						50	0/0	1410 Collect water sample V5MW22H-35
40	silt, dark greenish gray (5GY 4/1), low plasticity, wet, trace sand, fine grained, subrounded, poorly graded, trace clay, Careaga.		ML				100	0/0	
	trace shell fragments.						100	0/0	
45	dark olive gray (5Y 3/2).								



Tetra Tech, Inc.

4213 State Street, Suite 100
 Santa Barbara, CA 93110-2847
 VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**
 Log of Well No. **5-MW-22**

Location: 50 feet north of Bear Creek Canyon track, between
 6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Sup	REMARKS
45	silt, dark olive gray (5Y 3/2), low plasticity, moist, trace sand, fine grained, rounded, poorly graded, trace clay, Careaga.		ML		X		100	0/0	1440 Collect water sample V5MW22H-45
50					X				Collect soil sample V5MW22H-50 for physical parameters testing
55	very dark gray (5Y 3/1).				X		100	0/9.6	1530 Collect water sample V5MW22H-55
60					X				4" Stainless steel sump installed from 55 to 65 ft bgs.
65					X		100	0/ 34.6	1600 Collect water sample V5MW22H-65
70									

**Tetra Tech, Inc.**

4213 State Street, Suite 100

Santa Barbara, CA 93110-2847

VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**Location: 50 feet north of Bear Creek Canyon track, between
6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Smp	REMARKS
70	silt, very dark gray (5Y 3/1), low plasticity, moist, trace sand, very fine grained, rounded, poorly graded, trace clay, trace shell fragments, Careaga.		ML				100	0/0	
75	no trace shell fragments.						100	0/0	1635 Collect water sample V5MW22H-75
80	trace shell fragments.								
85							100	0/0	1720 End drilling 3/5/02 0710 Begin drilling 0715 Collect water sample V5MW22H-85
90	dark olive gray (5Y 3/2).						100	0/0	
95									

**Tetra Tech, Inc.**

4213 State Street, Suite 100

Santa Barbara, CA 93110-2847

VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**

Location: 50 feet north of Bear Creek Canyon track, between 6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Smp	REMARKS
95	silt, very dark gray (5Y 3/1), low plasticity, moist, trace sand, fine grained, rounded, poorly graded, trace clay, trace shell fragments, Careaga.		ML		X		100	0/0	0800 Collect water sample V5MW22H-95
100									
105					X		100	0/0	0840 Collect water sample V5MW22H-105
110									
115					X		100	0/0	0925 Collect water sample V5MW22H-115
120									

**Tetra Tech, Inc.**

4213 State Street, Suite 100

Santa Barbara, CA 93110-2847

VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**Location: 50 feet north of Bear Creek Canyon track, between
6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Smp	REMARKS
120	silt, very dark gray (5Y 3/1), low plasticity, moist, trace sand, fine grained, rounded, poorly graded, trace clay, trace shell fragments, Careaga.		ML						
125									
130									
135									
140									
145									
							100	0/0	1110 Collect water sample V5MW22H-125 Drilling is tight.
							100	0/0	

**Tetra Tech, Inc.**

4213 State Street, Suite 100
Santa Barbara, CA 93110-2847
VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**Location: 50 feet north of Bear Creek Canyon track, between
6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Smp	REMARKS
145	<u>silt</u> , very dark gray (5Y 3/1), low plasticity, moist, trace sand, fine grained, rounded, poorly graded, trace clay, trace shell fragments, Careaga.		ML				100	0/0	
150									
155							100	0/0	1340 Collect water sample V5MW22H-155
160	no shell fragments.								
165	moist.						100	0/0	1430 Collect water sample V5MW22H-165
170									

**Tetra Tech, Inc.**

4213 State Street, Suite 100

Santa Barbara, CA 93110-2847

VOICE (805) 681-3100 FAX (805) 681-3108

Project: **TO-42, Vandenberg Air Force Base IRP**Log of Well No. **5-MW-22**Location: 50 feet north of Bear Creek Canyon track, between
6-MW-1 and 6-MW-2.

Depth (ft bgs)	MATERIAL DESCRIPTION	Material Symbol	Material Type	Well Construction	Sample	Blow Counts per 6"	Percent Recovery	PID (ppm) Amb/Smp	REMARKS
170	<u>silt</u> , very dark gray (5Y 3/1), low plasticity, moist, trace sand, fine grained, rounded, poorly graded, trace clay, Careaga.		ML				100	0/0	
175							100	0/0	1605 Collect water sample V5MW22H-175
180									
185							100	0/0	1700 Collect water sample V5M22H-185
									1710 End drilling
									Borehole T.D. 185 ft. bgs
									Backfill to 67 ft. bgs with bentonite pellets
190									
195									